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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/776,982	02/11/2004	David P. Gurney	BCS03463	4523

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EXAMINER	
TAYONG, HELENE E	

ART UNIT	PAPER NUMBER
2611	

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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)
	10/776,982	GURNEY ET AL.
	Examiner	Art Unit
	Helene Tayong	2611

-- *The MAILING DATE of this communication appears on the cover sheet with the correspondence address* --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *20 July 2007*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☐ Claim(s) *1-11,13-22 and 24-27* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-11,13-22 and 24-27* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *2/11/04* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

1. This office action is in response to the amendment filed on July 20, 2007. Claims 1-11,13-22 and 24-27 are presently pending. Claims 1-11, 13-22 and 24-27 are rejected. Claims 12 and 23 have been cancelled.

In the Office Action mailed on April 18, 2007, the Examiner rejected claims 1-5, 8-11, 16-22 and 27 under 35 U.S.C. 102(b) as being anticipated by U.S. Patent No. 5,289,476 to Johnson et al.; rejected claims 6 and 7 under 35 U.S.C. 103(a) as being unpatentable over Johnson et al. in view of U.S. Patent No. 7,095,274 to Lopez Villegas and U.S. Patent Publication No. 2002/0186786 to Seo and rejected claims 12-15 and 23- 26 under 35 U.S.C. 103(a) as being unpatentable over Johnson et al. in view of U.S. Patent No. 5,822,384 to Thebault et al.

Claims 1-11, 13-22 and 24-27 are pending in this application and have been considered below.

Response to Arguments

2. Applicants arguments regarding the rejection under 35 U.S.C. 102(b) as being anticipated by U.S. Patent No. 5,289,476 to Johnson et al.; rejected claims 6 and 7 under 35 U.S.C. 103(a) as being unpatentable over Johnson et al. in view of U.S. Patent No. 7,095,274 to Lopez Villegas and U.S. Patent Publication No. 2002/0186786 to Seo and rejected claims 12-15 and 23- 26 under 35 U.S.C. 103(a) as being unpatentable over Johnson et al. in view of U.S. Patent No. 5,822,384 to Thebault et al. have been fully considered but they are not persuasive. The examiner thoroughly

reviewed Applicant's arguments but firmly believes that the cited reference reasonably and properly meets the claimed limitation as rejected.

(1) Applicant's arguments: "Regarding claims 1 and 16, the applicant argues that what Johnson et al. teach in column 8, lines 29-41 is searching for a fixed code in the preamble of every packet. That code then instructs the receiver to decode the remaining portion of the packet using either BPSK or QPSK. (Emphasis added). Thus, Johnson et al. teach decoding a first portion of the packet using BPSK and decoding a second portion of the packet using either BPSK or QPSK. Nowhere does Johnson et al. describe processing the same portion of the packet using both BPSK and QPSK."

The examiner's response: In claims 1 and 16, the applicant claimed "wherein said sync word search includes performing a hybrid synchronization technique, said hybrid synchronization technique including both a lower order modulation detection and correlation process, and a higher order modulation detection and correlation process". The reference U.S. Patent No. 5,289,476 by Johnson et al teaches this in (col. 8, lines 29-41). With regards to claims 2 and 3 which are dependent on claim 1 respectively. In claim 2, wherein said lower order modulation detection and correlation process comprises performing a biphase shift keying (BPSK) sync word correlation process (Col. 10, lines 13-15).

In claim 3, wherein said higher order modulation detection and correlation process comprises performing a quadrature phase shift keying (QPSK) sync word correlation process (col. 10, lines 15-19). It is noted that "processing the same portion of the

packet using both BPSK and QPSK" is not recited in the rejected claims.

(2) Applicant's arguments: Regarding claims 4,5 and 18, the applicant argues that the words "modify," or "supersedes," or their equivalents, are not used in Johnson et al.'s column 10, lines 55-63. As stated earlier, Johnson et al. uses either BPSK or QPSK on certain portions of a packet. Nowhere do Johnson et al. use the results of QPSK demodulation to modify or supersede the results of BPSK demodulation, or vice versa.

The examiner's response: It is noted that "processing the results of QPSK demodulation to modify or supersede the results of BPSK demodulation, or vice versa " is not recited in the rejected claims 1 and 16 wherein claims 4,5 and 18 are depended upon.

(3) Applicant's arguments: " With respect to claims 6 and 7, the Examiner has used a reference that is not prior art to the present application. Specifically, the Examiner cites to column 1, lines 24-25 of Lopez Villegas et al. Patent No. 7,095,274 for the proposition that using DBPSK avoids mutual locking over using BPSK. The filing date of the '274 patent is August 8, 2005, which is more than one year after the filing date of the present application.

The '274 patent claims priority to and is a continuation-in-part of U.S. Patent No. 6,975,165. However, a review of column 1, lines 10-13 of the '165 patent shows that the objective cited by the Examiner in the '274 patent is not in the '165 patent. It therefore follows that this objective was added to the '274 patent application AFTER the filing date of the '165 patent, which is September 15, 2004. It therefore follows that this portion of

the '274 patent is not prior art to the present application and cannot be used in rejecting the present claims.

The examiner's response: In col. 1, lines 47-57, Lopez Villegas et al (US 6975165) teaches that from the signal point of view, there is no difference between BPSK and DBPSK.. Therefore it would have been obvious to one of ordinary skill in the art at the time the invention was made to integrate the conventional modulation format of Lopez Villegas et al. to the method of Jonhson et al. in order to provide high quality data.

(4) Applicant's arguments: "With respect to amended claims 11 and 22, the Examiner asserts that Thebault et al. teach "signaling a valid burst detection" in column 4, lines 8-17. This is incorrect. Instead, Thebault et al. teach a process that achieves synchronization in line 17 of column 4. As stated in paragraph [0030] of the present application, burst detection and synchronization are two different things. Specifically, burst detection identifies likely QPSK signals while sync word acquisition is responsible for the burst/frame timing of the packet. Thus, burst detection and synchronization are two different things. Since Thebault et al. teach synchronization and not burst detection, it follows that the combination of Johnson et al. and Thebault et al. do not teach all of the limitations of amended claims 11 and 22.

The examiner's response: In fig. 1, 22 and col. 1, 24-27 and lines 36-61 teaches where a spread spectrum signal must be able to synchronized its spreading sequence generator with that of the transmitter so that the wanted signal can be extracted from the received signal. Also (see abstract). In col. 2, lines 54-67 Tebault et

al also discusses synchronization acquisition detector system which processes a signal. One of ordinary skilled in the art at the time of the invention would have considered the method of Thebault et al. as "signaling a valid burst detection"

Applicants are reminder that the Examiner is entitled to give the broadest reasonable interpretation to the language of the claim. So the Examiner considers "signaling a valid burst detection" as "extracting wanted signal from a spreading sequence". The examiner is not limited to Applicant's definition, which is not specifically set fourth in the claims. I*n re tanaka et al*., 193 USPQ 139, (CCPA) 1977.

Claim Rejections - 35 USC § 102

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

4. Claims 1-5, 8-11,16-21 and 27 are rejected under 35 U.S.C. 102(b) as being anticipated by Johnson et al (US 5289476).

(1) with regards to claim 1;

Johnson et al in figure 2 discloses a method for improving burst acquisition in a digital communication device comprising:

receiving a signal (col. 6, lines 29-30); and

performing a sync word search on said signal (col. 7, lines 13-16);

wherein said sync word search includes performing a hybrid synchronization

technique, said hybrid synchronization technique including both a lower order modulation detection and correlation process, and a higher order modulation detection and correlation process (col.8, lines 29-41).

(2) with regards to claim 2;

wherein said lower order modulation detection and correlation process comprises performing a biphase shift keying (BPSK) sync word correlation process (col.10, lines 13-15).

(3) with regards to claim 3;

wherein said higher order modulation detection and correlation process comprises performing a quadrature phase shift keying (QPSK) sync word correlation process (col.10, lines 15-19).

(4) with regards to claim 4;

using a result of said higher order modulation detection and correlation process to modify a result of said lower order modulation detection and correlation process (col.10, lines 55-63).

(5) with regards to claim 5;

wherein said result of said higher order modulation detection and correlation process is utilized to supersede a result of said lower order modulation detection and correlation process (col.10, lines 60-63).

(6) with regards to claim 8;

performing said lower order modulation detection and correlation process prior to said higher order modulation detection and correlation process (col.10, lines 53-55).

(7) with regards to claim 9;

performing a squelching function on said received signal prior to said sync word search (col.6 lines 33-49).

(8) with regards to claim 10;

wherein said sync word search is not performed until a multi-step burst detection process detects a burst (col. 9, lines 1-9).

(9) with regards to claim 16;

a tuner (interpreted as filter, fig. 2,18, col.6,lines 29-37); and

a demodulator (interpreted as transceiver fig. 2,51); wherein said demodulator is configured to receive a signal and perform a hybrid sync word search on said signal, said hybrid synchronization technique including both a lower order modulation detection and correlation process, and a higher order modulation detection and correlation process (interpreted as transceiver fig. 2, 51, col. 8, lines 29-34)

(10) with regards to claim 17;

wherein said lower order modulation detection and correlation process comprises a biphase shift keying (BPSK) sync word correlation process and said higher order modulation detection comprises a quadrature phase shift keying (QPSK) sync word correlation process (col.8, lines 29-41).

(11) with regards to claim 18;

wherein said system is further configured to use a result of said higher order modulation detection and correlation process to modify a result of said lower order modulation detection and correlation process (col. 8, lines 29-41).

(12) with regards to claim 19;

wherein said demodulator is further configured to perform said lower order modulation detection and correlation process prior to said higher order modulation detection and correlation process (col. 10, lines 60-63).

(13) with regards to claim 20;

wherein said demodulator is further configured to perform a squelching function on said received signal prior to said sync word search (col.6,lines 33-49).

(14) with regards to claim 21;

wherein said demodulator is further configured to perform said sync words search only after a multi-step burst detection process detects a burst (col.9, lines 1-9).

(15) with regards to claim 27;

wherein said system comprises a digital receiver (fig. 2, col. 5,lines 30-35).

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

6. Claims 6 and 7 are rejected under 35 U.S.C. 103(a) as being unpatentable over Johnson et al (US 5289476) in view of Lopez Villegas et al (US 6975165) and Seo (US 2002/0186786 A1).

(1) with regards to claim 6 ;

Johnson et al discloses all of subject matter as described above except for specifically teaching comparing a result from a DBPSK correlation to a result from a CQPSK correlation; and if said result from said CQPSK correlation comprises a CQPSK sync word result, using said CQPSK sync word correlation result to demodulate said burst .

Data communications systems use a variety of methods for coding data into an analog medium. One welled known form is Binary phase shift keyed (BPSK). In BPSK system, two phases are used. In each digital symbol transmission cycle, a single binary bit transmitted (zero or one). A single binary value bit per baud is conveyed from transmitter to receiver during each baud in a BPSK system. However, Lopez Villegas et al. in the same field of endeavor, teaches that from the signal point of view, there is no difference between BPSK and DBPSK. (col. 1, lines 47-56).

Therefore it would have been obvious to one of ordinary skill in the art at the time the invention was made to integrate the conventional modulation format of Lopez Villegas et al. to the method of Jonhson et al. in order to provide high quality data. The motivation to integrate this modulation format (DBPSK) of Lopez Villegas et al. to the method of Johnson et al. was to provide a demodulation system which is designed to avoid mutual locking between resonant circuits (col. 1, lines 18-20).

Johnson et al. as modified by Lopez Villegas et al. fails to disclose CQPSK correlation sync word and using said CQPSK sync word correlation result to demodulate said burst.

However, Seo in the same field of endeavor teaches conventional modulation/demodulation quadrature phase shift keying (QPSK) and complex quadrature phase shift keying (CQPSK) (pg. 1, [007], lines 6-7 and [0008], lines 1-2)

It would have been obvious to one of ordinary skill in the art at the time the invention was made to integrate the conventional modulation format of Seo to the method of Johnson et al. as modified by Lopez Villegas et al. in order to demodulate signals in a simple and secure way. The motivation to integrate this modulation format (CQPSK) of Seo to the method of Johnson et al. as modified by Lopez Villegas et al. was to improve data processing speed of a radio channel and provide high quality data.

(2) with regards to claim 7;

Johnson et al discloses all of subject matter as described above except for specifically teaching using a sync word result from said DBPSK correlation if said result from said CQPSK correlation is not a sync result.

Lopez Villegas et al. in the same field of endeavor, teaches that from the signal point of view, there is no difference between BPSK and DBPSK. (col. 1, lines 56-59).

Therefore it would have been obvious to one of ordinary skill in the art at the time the invention was made to integrate the conventional modulation format of Lopez Villegas et al. to the method of Jonhson et al. in order to provide high quality data. The motivation integrate this modulation format (DBPSK) of Lopez Villegas et al. to the method of Johnson et al. was to improve a more robust communication system.

Johnson et al. as modified by Lopez Villegas et al et al. fails to disclose CQPSK correlation sync word and using said CQPSK sync word correlation result to

demodulate said burst.

However, Seo in the same field of endeavor teaches conventional modulation/demodulation quadrature phase shift keying (QPSK) and complex quadrature phase shift keying (CQPSK) (pg. 1, [007], lines 6-7 and [0008], lines 1-2)

It would have been obvious to one of ordinary skill in the art at the time the invention was made to integrate the conventional modulation format of Seo to the method of Johnson et al. as modified by Lopez Villegas et al. in order to get more data transfer into less bandwidth. The motivation to integrate this modulation format (CQPSK) of Seo to the method of Johnson et al. as modified by Lopez Villegas et al. was to improve data processing speed.

7. Claims 11, 13-15 and 22, 24-26 are rejected under 35 U.S.C. 103(a) as being unpatentable over Johnson et al (US 5289476) in view of Thebault et al (5822384).

(1) with regards to claims 11 and 22;

Jonnson et al discloses receiving a signal (col. 6, lines 29-30); and

performing a multi-step burst detection process on said signal (col. 9, lines 1-9); wherein the multi-step detection process further comprises:

Jonnson et al discloses all of the subject matter discussed above, but for specifically teaching measuring a signal energy;

comparing said signal energy to a designated signal energy threshold value:

measuring a signal carrier to noise plus interference ratio (CIR); comparing said CIR measurement to a designated CIR threshold value; and signalling a valid burst detection if said signal energy exceeds said designated signal energy threshold value

for a first predetermined period of time and said CIR exceeds said designated CIR threshold value for a second predetermined period of time.

However, Thebault et al. in the same field of endeavor teaches, measuring a signal energy (col. 1, lines 52-54); comparing said signal energy to a designated signal energy threshold value (col. 1, lines 54-61); measuring a signal carrier to noise plus interference ratio (CIR) (col. 2, lines 30-42); comparing said CIR measurement to a designated CIR threshold value (col.2, lines 28-46); and signaling a valid burst detection if said signal energy exceeds said designated signal energy threshold value for a first predetermined period of time and said CIR exceeds said designated CIR threshold value for a second predetermined period of time (col.4 , lines 8-17).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to implement the validation process of Thebault et al to the method of Jonhson et al. in order to increase reliability. The motivation to combine the measuring signal energy method of Thebault et al with that of Johnson et al. was to achieve a faster synchronization (col. 4, lines 18-20).

(2) with regards to claim 13;

Johnson et al discloses all of subject matter as described above except for specifically teaching wherein said designated signal energy threshold value comprises a first signal energy threshold that is utilized to detect a presence of said signal if said signal is currently undetected, and a second signal energy threshold that is utilized to detect the absence of said signal if said signal is currently detected.

However, Thebault et al. in the same field of endeavor, teaches wherein said

designated signal energy threshold value comprises a first signal energy threshold that is utilized to detect a presence of said signal if said signal is currently undetected, and a second signal energy threshold that is utilized to detect the absence of said signal if said signal is currently detected (col.3, lines 1-11).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to implement the validation process of Thebault et al to the method of Jonhson et al. in order to provide a sync time which is shortened. The motivation to combine the measuring signal energy method of Thebault et al with that of Johnson et al. was to increase reliability.

(3) with regards to claim 14;

Johnson et al discloses all of subject matter as described above except for specifically teaching wherein said designated CIR threshold value comprises a first CIR threshold that is utilized to detect the presence of said signal if said signal is currently undetected, and a second CIR threshold that is utilized to detect the absence of said signal if said signal is currently detected.

However, Thebault et al. in the same field of endeavor, teaches wherein said designated CIR threshold value comprises a first CIR threshold that is utilized to detect the presence of said signal if said signal is currently undetected, and a second CIR threshold that is utilized to detect the absence of said signal if said signal is currently detected (col.3, lines 1-11).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to add the validation process of Thebault et al to the method of

Jonhson et al. in order to increase reliability. The motivation to combine the measuring signal energy method of Thebault et al with that of Johnson et al. was to avoid false detection of synchronization.

(4) with regards to claims 15 and 26;

Johnson et al discloses all of subject matter as described above except for specifically teaching wherein said first and second predetermined periods of time comprise a majority of an expected burst duration.

However, Thebault et al. in the same field of endeavor, teaches wherein said first and second predetermined periods of time comprise a majority of an expected burst duration (col. 4, lines 1-7).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to add the predetermined periods of time of Thebault et al to the method of Jonhson et al. in order to provide a fast search method for time synchronization. The motivation to combine the predetermined periods of time to the method of Thebault et al with that of Johnson et al. was to improve reliability of the system.

(5) with regards to claim 24;

Johnson et al discloses all of subject matter as described above except for specifically teaching wherein said programmable signal energy threshold value comprises a first signal energy threshold that is utilized to detect a presence of said signal if said signal is currently undetected, and a second signal energy threshold that is utilized to detect the absence of said signal if said signal is currently detected.

However, Thebault et al. in the same field of endeavor, teaches wherein said programmable signal energy threshold value comprises a first signal energy threshold that is utilized to detect a presence of said signal if said signal is currently undetected, and a second signal energy threshold that is utilized to detect the absence of said signal if said signal is currently detected (col.3, lines 1-11).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to add the programmable signal energy threshold values of Thebault et al to the method of Jonhson et al. in order to increase reliability. The motivation to combine programmable signal energy threshold values method of Thebault et al with that of Johnson et al. was to achieve a faster synchronization.

(6) with regards to claim 25;

Johnson et al discloses all of subject matter as described above except for specifically teaching wherein said programmable CIR threshold value comprises a first CIR threshold that is utilized to detect the presence of said signal if said signal is currently undetected, and a second CIR threshold that is utilized to detect the absence of said signal if said signal is currently detected.

However, Thebault et al. in the same field of endeavor, teaches wherein said programmable CIR threshold value comprises a first CIR threshold that is utilized to detect the presence of said signal if said signal is currently undetected, and a second CIR threshold that is utilized to detect the absence of said signal if said signal is currently detected (col.3, lines 1-11).

It would have been obvious to one of ordinary skill in the art at the .time the

invention was madeto add the programmable CIR threshold values of Thebault et al to the method of Jonhson et al. in order to allow faster synchronization acquisition, but a long integration period. The motivation to combine CIR threshold values method of Thebault et al with that of Johnson et al. was to reduce the risk of noise causing false detection of synchronization or false locking (col. 2, lines 43-46).

Conclusion

8. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Helene Tayong whose telephone number is 571-270-1675. The examiner can normally be reached on Monday-Friday 8:00 am to 5:30 pm EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Liu Shuwang can be reached on 571-272-3036. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Helene Tayong

10/1/07

SHUWANG LIU
SUPERVISORY PATENT EXAMINER